



element14

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MJE340G

EN
This Datasheet is presented by the manufacturer

DE
Dieses Datenblatt wird vom Hersteller bereitgestellt

FR
Cette fiche technique est présentée par le fabricant

MJE340

Plastic Medium-Power NPN Silicon Transistor

This device is useful for high−voltage general purpose applications.

Features

- Suitable for Transformerless, Line−Operated Equipment
- Thermopad Construction Provides High Power Dissipation Rating for High Reliability
- These Devices are Pb−Free and are RoHS Compliant*
- Complementary to MJE350

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector−Emitter Voltage	V_{CEO}	300	Vdc
Emitter−Base Voltage	V_{EB}	3.0	Vdc
Collector Current − Continuous	I_C	500	mAdc
Total Power Dissipation @ T_C = 25°C Derate above 25°C	P_D	20 0.16	W mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +150	°C

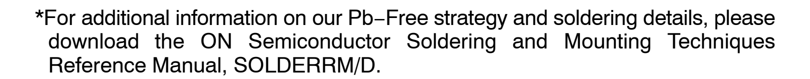
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction−to−Case	θ_{JC}	6.25	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector−Emitter Sustaining Voltage (I_C = 1.0 mAdc, I_B = 0)	$V_{CEO(sus)}$	300	−	Vdc
Collector Cutoff Current (V_{CB} = 300 Vdc, I_E = 0)	I_{CBO}	−	100	μAdc
Emitter Cutoff Current (V_{EB} = 3.0 Vdc, I_C = 0)	I_{EBO}	−	100	μAdc
ON CHARACTERISTICS				
DC Current Gain (I_C = 50 mAdc, V_{CE} = 10 Vdc)	h_{FE}	30	240	−


*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

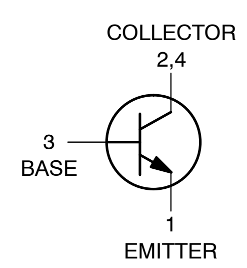


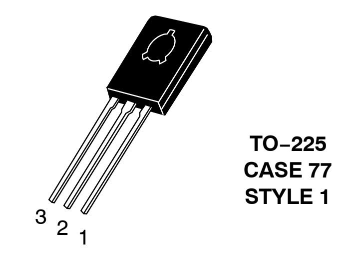
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0.5 AMPERE
POWER TRANSISTOR
NPN SILICON
300 VOLTS, 20 WATTS

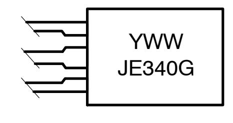
SCHEMATIC





TO−225
CASE 77
STYLE 1

MARKING DIAGRAM



Y = Year
WW = Work Week
JE340 = Device Code
G = Pb−Free Package

ORDERING INFORMATION

Device	Package	Shipping
MJE340G	TO−225 (Pb−Free)	500 Units/Box

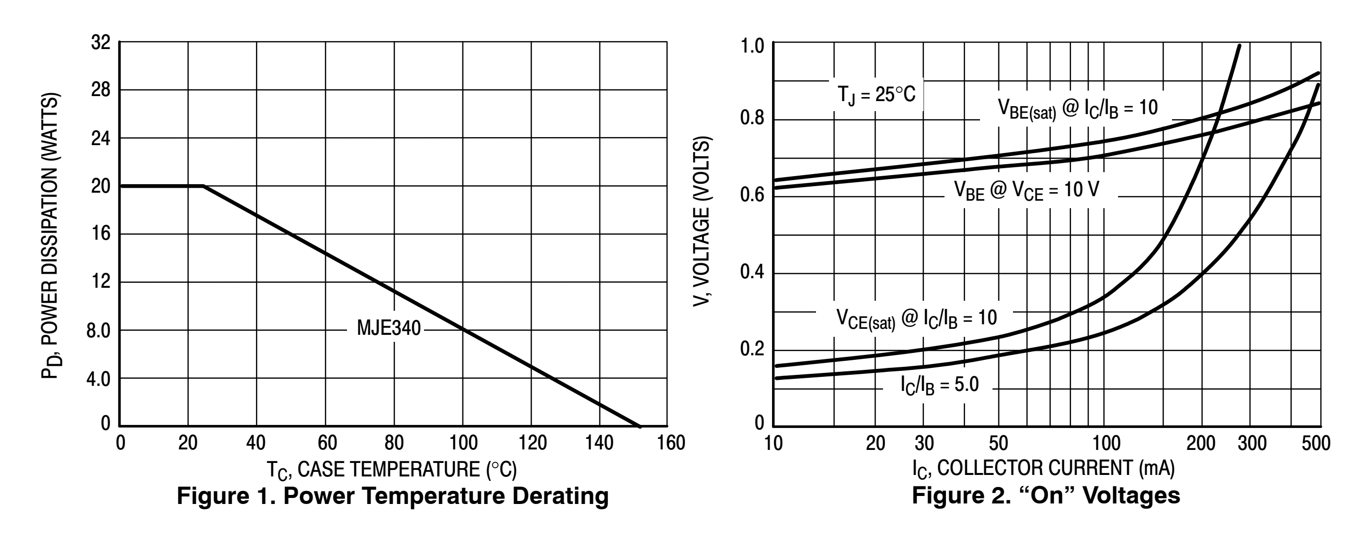


Figure 1. Power Temperature Derating

Figure 2. "On" Voltages

ACTIVE–REGION SAFE OPERATING AREA

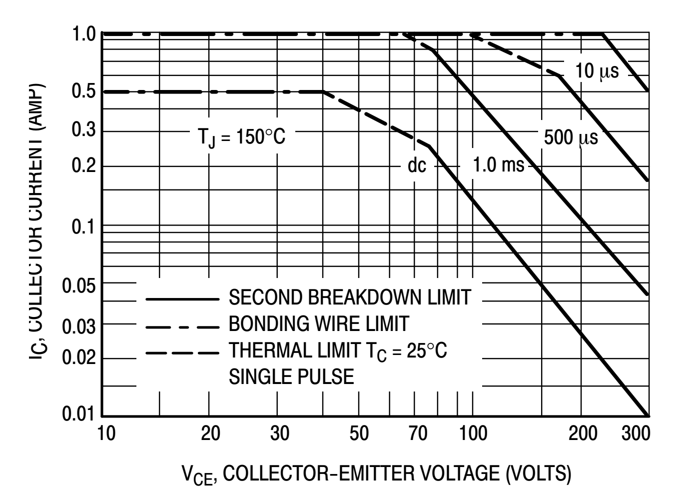


Figure 3. MJE340

There are two limitations on the power handling ability of a transistor: average junction temperature and second breakdown. Safe operating area curves indicate $I_C - V_{CE}$ limits of the transistor that must be observed for reliable operation; i.e., the transistor must not be subjected to greater dissipation than the curves indicate.The data of Figure 3 is based on $T_{J(pk)} = 150°C$; T_C is variable depending on conditions. Second breakdown pulse limits are valid for duty cycles to 10% provided $T_{J(pk)} \leq 150°C$. At high case temperatures, thermal limitations will reduce the power that can be handled to values less than the limitations imposed by second breakdown.

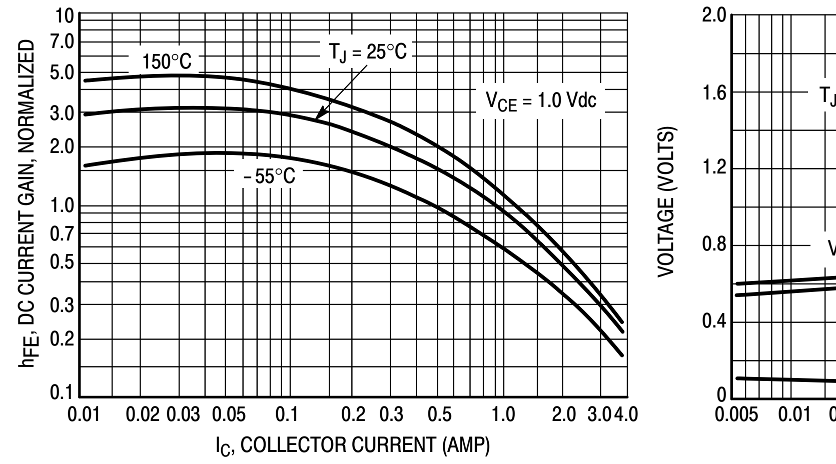


Figure 4. DC Current Gain

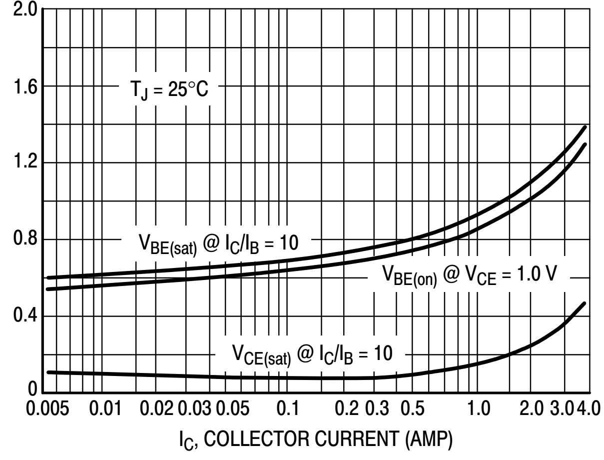


Figure 5. "On" Voltage

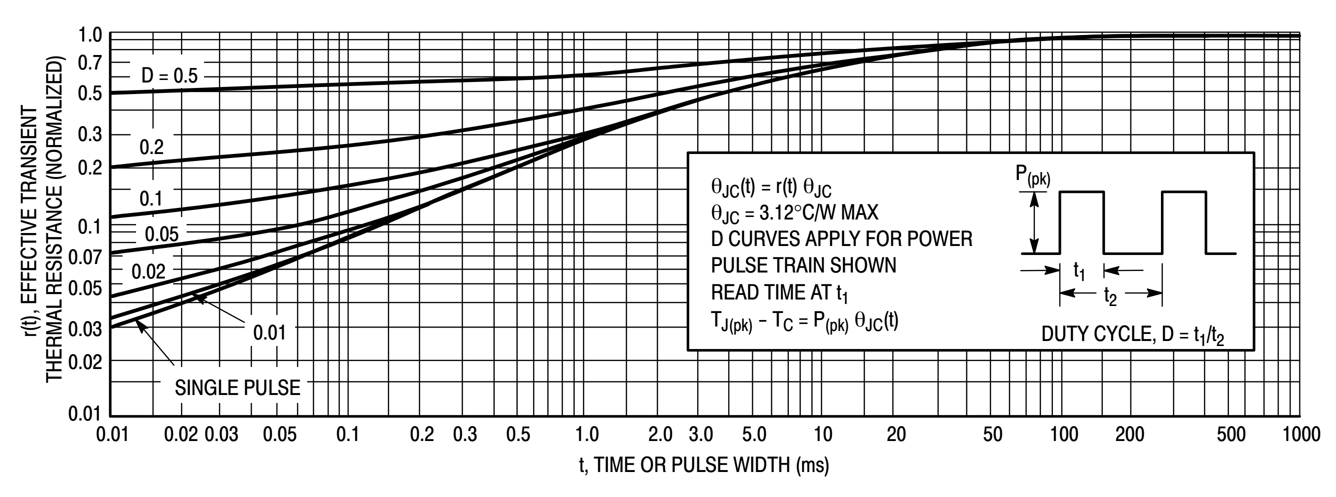


Figure 6. Thermal Response

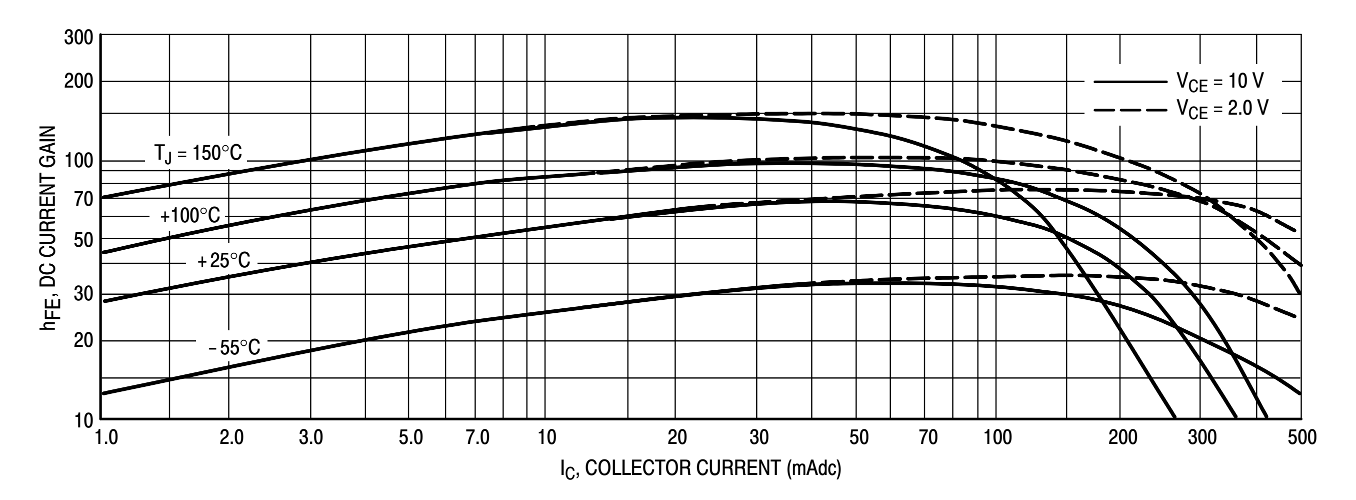
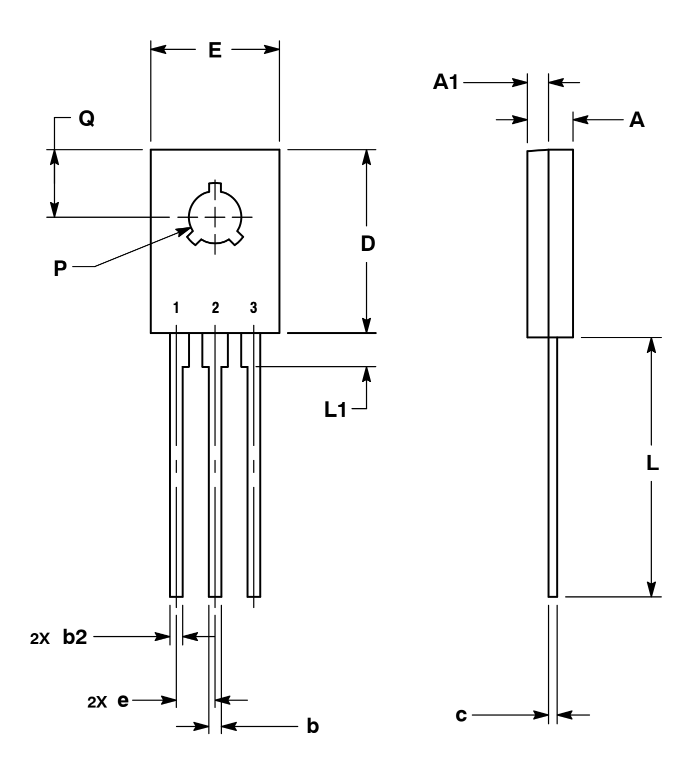


Figure 7. DC Current Gain

PACKAGE DIMENSIONS

TO−225
CASE 77−09
ISSUE AA



NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. NUMBER AND SHAPE OF LUGS OPTIONAL.

	MILLIMETERS	
DIM	MIN	MAX
A	2.40	3.00
A1	1.00	1.50
b	0.60	0.90
b2	0.51	0.88
c	0.39	0.63
D	10.60	11.10
E	7.40	7.80
e	2.04	2.54
L	14.50	16.63
L1	1.27	2.54
P	2.90	3.30
Q	3.80	4.20

PUBLICATION ORDERING INFORMATION

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